

Hopewell Furnace National Historic Site, Color Infrared Orthorectified Photomosaic Metadata

Identification_Information:

Citation:

Citation_Information:

Originator: North Carolina State University, Center for Earth Observation

Publication_Date: 20020930

Title: Hopewell Furnace NHS Color Infrared Orthorectified Photomosaic (ERDAS Imagine IMG and Mr. SID formats)

Edition: 20020404-Final

Geospatial_Data_Presentation_Form: remote-sensing image

Online_Linkage: http://biology.usgs.gov/npsveg/hofu/index.html#aerial_photo

Description:

Abstract: Orthorectified color infrared ERDAS Imagine image of Hopewell Furnace NHS. Produced from 37 color infrared photos taken April 4, 2002. Orthorectification accomplished with Imagine Orthobase v8.5 software. The overall positional accuracy for the photomosaic meets the NMAS Class 1 standards.

Purpose: The dataset was developed for use by Hopewell Furnace NHS as a GIS component and for digital monoploting and mapping.

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 20020404

Currentness_Reference: ground condition

Status:

Progress: Complete

Maintenance_and_Update_Frequency: Unknown

Spatial_Domain:

Description_of_Geographic_Extent: Hopewell Furnace National Historic Site and environs

Bounding_Coordinates:

West_Bounding_Coordinate: -75.787933

East_Bounding_Coordinate: -75.745324

North_Bounding_Coordinate: 40.229871

South_Bounding_Coordinate: 40.173955

Keywords:

Theme:

Theme_Keyword_Thesaurus: none

Theme_Keyword: Orthorectified

Theme_Keyword: Color Infrared

Theme_Keyword: mosaic

Theme_Keyword: aerial photo

Theme_Keyword: CIR

Theme_Keyword: image

Theme_Keyword: leaf-off

Place:

Place_Keyword_Thesaurus: none

Place_Keyword: Pennsylvania

Place_Keyword: National Historical Site

Place_Keyword: National Park

Place_Keyword: Hopewell Furnace

Place_Keyword: Elverson

Temporal:

Temporal_Keyword_Thesaurus: none

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Temporal_Keyword: 20020404
Temporal_Keyword: spring
Temporal_Keyword: April
Access_Constraints: none
Use_Constraints: none
Point_of_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Steven Ambrose
Contact_Organization: Hopewell Furnace NHS
Contact_Position: Chief Ranger
Contact_Address:
Address_Type: mailing and physical address
Address:
Hopewell Furnace NHS
2 Mark Bird Lane
City: Elverson
State_or_Province: Pennsylvania
Postal_Code: 19520
Country: USA
Contact_Voice_Telephone: (610) 582-8773
Contact_Electronic_Mail_Address: Steven_Ambrose@nps.gov
Data_Set_Credit: William Millinor, Mark Smith, Bill Slocumb, and Kristina Calahan
Native_Data_Set_Environment: Microsoft Windows 2000 Version 5.1 (Build 2600) Service Pack 1; ESRI ArcCatalog 8.3.0.800

Data_Quality_Information:
Logical_Consistency_Report: Raster Data
Completeness_Report: Hopewell Furnace NHS and surrounding area
Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
Overall positional accuracy of 1.27 meters
1.18 meters in the x direction
0.76 meters in the y direction
Meets the NMAS Class 1 map standard for x, NMAS Class 1 map standard for y
Horizontal accuracy was assessed on the basis of 12 field survey points distributed throughout the image. The actual field coordinates for these points were recorded with a Trimble ProXRS GPS unit with real-time differential correction with a minimum of 180 fixes per point. The field coordinates were then post-processed using differential correction. The field coordinates were then compared to the image mosaic coordinates for these points, determined in ESRI ArcView 3.3 software.

Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Originator: USGS (<http://gisdata.usgs.net/ned>)
Publication_Date: unknown
Title: 30 Meter Digital Elevation Model- USGS National Elevation Dataset
Geospatial_Data_Presentation_Form: model
Source_Scale_Denominator: 30 meter
Type_of_Source_Media: online
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 20011112
Source_Currentness_Reference: 20011112

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Source_Citation_Abbreviation: dem
Source_Contribution: elevation
Source_Information:
Source_Citation:
Citation_Information:
Originator: Kucera Internation, Inc
Publication_Date: Unpublished Material
Title: Aerial photographs of Hopewell Furnace NHS
Geospatial_Data_Presentation_Form: remote-sensing image
Source_Scale_Denominator: 6000
Type_of_Source_Media: color ir aerial transparencies
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 20020404
Source_Currentness_Reference: ground condition
Source_Citation_Abbreviation: photos
Source_Contribution: Aerial view of Hopewell Furnace NHS

Process_Step:

Process_Description: The photos (37 total) were used to create an orthorectified mosaic using ERDAS Imagine. The photos were scanned at 600 dpi and imported into Imagine. The DEMs were resampled from 30 meters to 10 meters in ArcINfo Workstation using cubic convolution and then mosaicked together. If the mosaicked DEMs had gaps, they were then run in ArcINfo Workstation using a focal mean. The images were orthorectified using ERDAS Imagine Orthobase software. Airborne GPS and IMU data were used in the aerial triangulation procedure. Aerial triangulation produced a single RMSE of less than 1 meter for the entire block of photos. The orthorectified images were then mosaiced within Imagine to form one seamless basemap image for Hopewell Furnace NHS. The mosaic was compressed using Mr. SID software at a 1:20 target compression ratio.

Process_Date: 200207

Process_Contact:

Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NCSU, Center for Earth Observation
Contact_Address:
Address_Type: mailing address
Address:
NCSU, Center For Earth Observation
NCSU Campus Box 7106
City: Raleigh
State_or_Province: NC
Postal_Code: 27695-7106
Country: USA
Contact_Voice_Telephone: 919-515-3430
Contact_Facsimile_Telephone: 919-515-3439

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Raster
Raster_Object_Information:
Raster_Object_Type: Pixel
Row_Count: 21577
Column_Count: 12484
Vertical_Count: 1

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:
Planar:
Grid_Coordinate_System:

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Grid_Coordinate_System_Name: Universal Transverse Mercator

Universal_Transverse_Mercator:

UTM_Zone_Number: 18

Transverse_Mercator:

Scale_Factor_at_Central_Meridian: 0.999600

Longitude_of_Central_Meridian: -75.000000

Latitude_of_Projection_Origin: 0.000000

False_Easting: 500000.000000

False_Northing: 0.000000

Planar_Coordinate_Information:

Planar_Coordinate_Encoding_Method: row and column

Coordinate_Representation:

Abscissa_Resolution: 0.286231

Ordinate_Resolution: 0.286231

Planar_Distance_Units: meters

Geodetic_Model:

Horizontal_Datum_Name: North American Datum of 1983

Ellipsoid_Name: Geodetic Reference System 80

Semi-major_Axis: 6378137.000000

Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:

Overview_Description:

Entity_and_Attribute_Overview: Dataset consists of a raster 3 band color image. The bands are blue, green and near infrared. Each pixel contains a value between 0 - 255.

Entity_and_Attribute_Detail_Citation: none

Distribution_Information:

Distributor:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: USGS Center for Biological Informatics

Contact_Position: USGS-NPS Vegetation Mapping Program Coordinator

Contact_Address:

Address_Type: mailing and physical address

Address: United States Geological Survey, Center for Biological Informatics

Address: MS 302, Bldg 810, Room 8000

Address: Denver Federal Center

City: Denver

State_or_Province: Colorado

Postal_Code: 80225

Country: USA

Contact_Voice_Telephone: 303 202-4220

Contact_Facsimile_Telephone: 303 202-4219

Contact_Facsimile_Telephone: 303 202-4229

Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov

Resource_Description: Orthorectified 3 band color infrared image of Hopewell Furnace NHS.

Distribution_Liability:

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use the related graphics as data.

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Custom_Order_Process:

Contact

Steven Ambrose
Hopewell Furnace NHS
2 Mark Bird Lane
Elverson, PA 19520
(610) 582-8773
Steven_Ambrose@nps.gov

Standard_Order_Process:

Digital_Form:

Digital_Transfer_Information:

Format_Name: HTML

Digital_Transfer_Option:

Online_Option:

Computer_Contact_Information:

Network_Address:

Network_Resource_Name: http://biology.usgs.gov/npsveg/hofu/index.html#aerial_photo

Access_Instructions: Internet Access

Fees: None

Metadata_Reference_Information:

Metadata_Date: 20050218

Metadata_Review_Date: 20060901

Metadata_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: USGS-NPS Vegetation Mapping Program Coordinator

Contact_Address:

Address_Type: mailing and physical address

Address:

U.S. Geological Survey, Center for Biological Informatics, MS 302,
Room 8000, Building 810, Denver Federal Center

City: Denver

State_or_Province: Colorado

Postal_Code: 80225

Country: USA

Contact_Voice_Telephone: (303) 202-4220

Contact_Facsimile_Telephone: (303) 202-4219

Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov

Metadata_Standard_Name: FGDC-STD-001.1-1999 Content Standard for Digital Geospatial Metadata, 1998 Part 1:
Biological Data Profile, 1999

Metadata_Standard_Version: FGDC-STD-001-1998

Metadata_Extensions:

Online_Linkage: <http://biology.usgs.gov/fgdc.bio/bionwext.txt>

Profile_Name: Biological Data Profile FGDC-STD-001.1-1999